Nano
Degree Program

Electric Vehicle Engineering

DIYGURU.ORG

The electrical vehicle certification course is a Workshop Integrated Learning Programme designed for students and coorporates aspire to work or working in automotive, auto-component, design and manufacturing sector and aim to develop the required skills to build and sustain future automobiles.

This program enables the engineering professionals working in manufacturing, design, analysis, support and allied areas in automotive-related fields to gain knowledge and expertise in Vehicle dynamics, Architecture, Motor Design, Ergonomics, Battery Technology to help in designing, building, testing and sustaining future automotive systems using Ev technologies.

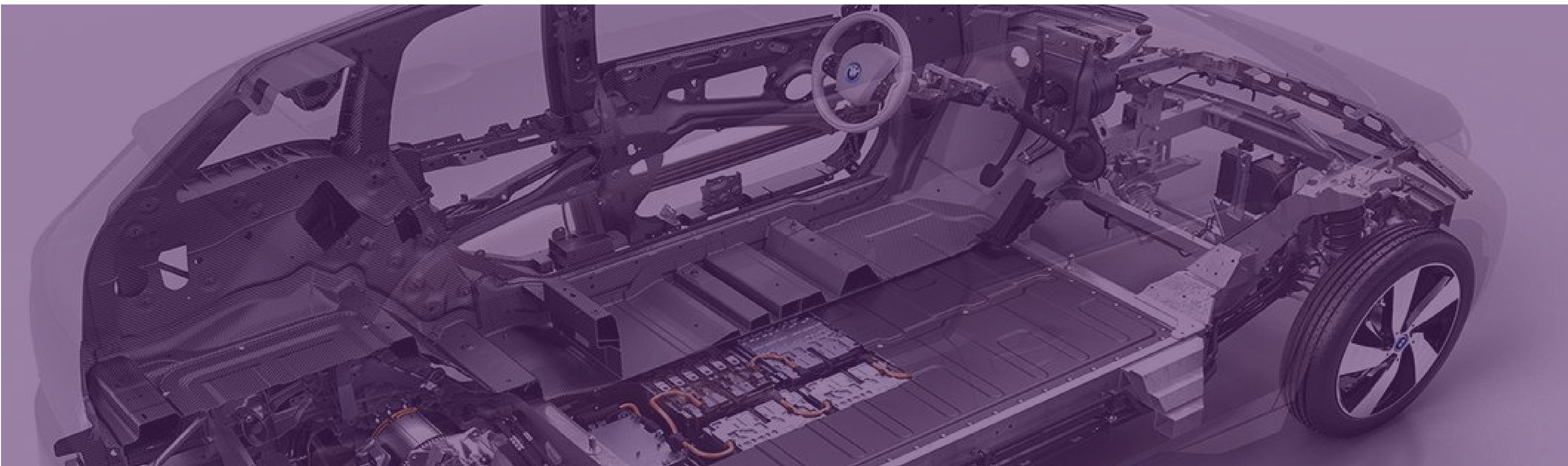
What are the program objectives?

The programme tends to equip students and professionals with multidisciplinary expertise and increase the practical exposure with the tools and functioning of the Electric vehicle via small workshop prototypes.

This program follows the practical approach of learning (PLA model) to educate and offer cutting edge training to prepare engineers for the future industry workforce demand.

What are the main highlights of the program?

- Learn without a career break with online classes available 24*7.
- One can access the course at their own pace, but with the investment of 3-5 hours/week, it can be finished within a month.
- After completing the online course one can attend the workshop at the preferred location within 90 days.
- The electrical vehicle certification course is a Workshop Integrated Learning Programme designed for students or professionals aspire to work or working in automotive, auto-component, design and manufacturing sector and aim to develop the required skills to build and sustain future automobiles.
- The programme has a special emphasis on concepts such as Vehicle dynamics, Architecture, Motor Design, Ergonomics and Battery Technology.
- The programme includes basic concepts required for developing an Electric Vehicle.
- The programme uses a Continuous Evaluation System that assesses the learners over convenient and regular intervals. Such a system provides timely and frequent feedback and helps busy working professionals stay on course with the programme.
- The education delivery method is a blend of classroom and experiential learning.
- Participants who will complete the programme become eligible for Mentorship and Placement help through our Job Fairs.



Who should apply?

The programme is designed for students or professionals who are:

- Having a Diploma, BE / B.Tech or equivalent in domains such as Automotive, Mechanical, EEE, ECE, Instrumentation, Mechatronics.
- Automotive enthusiasts (No academic qualification mandatory)
- Working in industries such as Automotive, Auto component, Design, Manufacturing, etc
- Working in Functional areas such as R&D, Analysis, Maintenance, Projects, component design etc.
- Interested in pursuing further studies on the part-time or full-time basis in Automotive, Electrical, Electronics, and Mechanics sector.

What are the Technical Requirements?

The programme to give its best will need following requirements:

- Computer/ Laptop will provide you with the best experience, but this program is quite compatible with smartphones to make it feasible for students worldwide.
- High-speed internet for crystal clear experience, but this program can also run without buffering with below-average connectivity for reaching out students from suburban and rural areas.
- A student should make their notes for future reference.
- A student should have basic knowledge about high-school physics and chemistry, even though the pre-requisite of this programme will brush up one's basic concepts.

What is the learning methodology?

The learning Methodology of this programme provides you with the most flexible learning environment possible. This programme is offered as a self-paced programme often referred to as asynchronous online programme which is time-independent, meaning that it can be accessed 24X7 within the tenure of 90 days. This programme can be accessed from multiple devices which make it easy to learn on the go.

Lectures that are pre-recorded or slide presentation with voice-over commentary, interactive discussion boxes that foster student to student interaction, Email communication with the instructor are part of this process. Downloadable educational tools such as e-books, research papers and government reports are made available at just one click. Three days of the instructor-led workshop is added to emphasize the practical approach of a student on programme relat-

What are the learning outcomes?

- A student shall get to know about different modules of Electric Vehicles.
- A student shall understand the underlying concept behind Power Electronics & Battery Management System.
- A student shall understand the effects of external factors and assumptions taken for designing the vehicle and its power train.
- A student shall understand the mystery of chemistry within batteries.
- A student shall get mentored by Industry Experts.
- A student shall get project assistance.
- A student could get on request instructor-led hands-on workshop.
- A student shall get career mentorship in Electric / Green-tech fields.

How to apply?

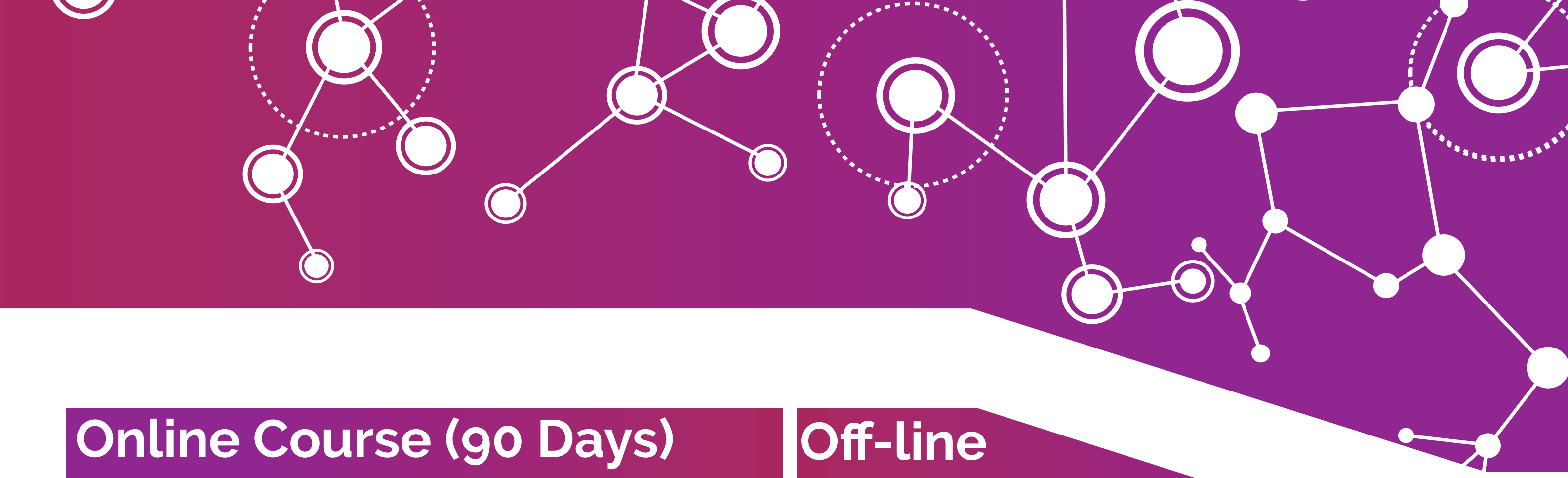
Enrollment procedure follows a few hassle-free steps:

- Signup with your operational e-mail ID.
- Select "Electric Vehicle Certification Course".
- Select "Take the Course".
- Apply coupon code if applicable.
- Fill the required fields on the form.
- Select your preferred payment gateway.
- Pay the total amount.
- Select "Start Course" and shift yourself to an upskilling mode.

What is the fee structure?

The actual fee of this elite program is INR 25000 + 18% GST that is INR 29500 only.
This Programme is also available by giving a simple online Scholarship Test. The link of which is given below. Your score will determine the percentage of scholarship you are eligible for (e.g. if you score between 51-60% you will earn 10% off on the listed fee, likewise if you score 91% and above you will be eligible to get 50% off on the listed fee). Once you are done with the test, kindly share your score with us through e-mail to proceed further.

Link to the Online Scholarship Test: https://www.diyguru.org/electric-vehicle-course-admission-online-test/



Online Course (90 Days)

Basic

- Introduction
- History of EV
- Assumptions
- Basic Physics
- Know How of EVs
- Vehicle Ergonomics
- Electric Vehicle Modelling
- Electric Vehicle Powertrain Calculation

Components

- Battery
- Motor
- Motor Controller
- Throttler
- Battery Management System
- Charger
- Charging Ports
- Converter, Inverter

Vehicle Dynamics

- Acceleration
- Braking
- Suspension of EVs
- Steering of EVs
- Rollover Control
- Tyres
- Ride Comfort
- Dynamic Axle Loads

Off-line Course (3 Days)

Diagnosis

- Circuit Diagnosis
- Functionality of ECU(s)
- Circuit Diagram Reading
- Fault Detection

Eqipments

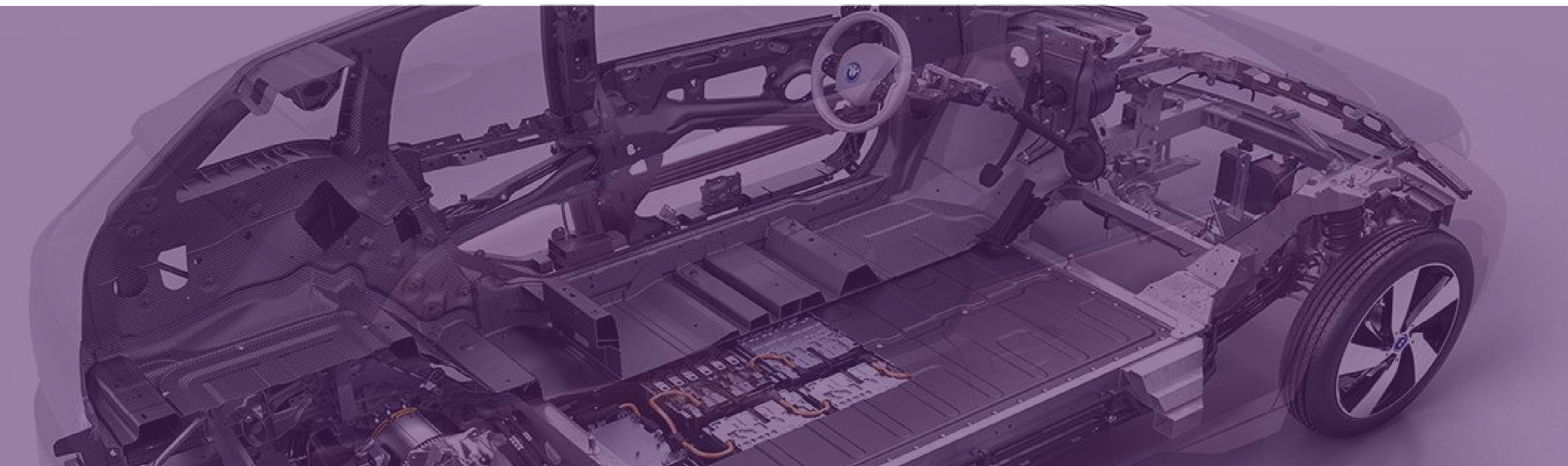
- Demonstration
- Safety Equipment
- Measurement
- Dissection

Retrofitting

- Problem Statement
- Assumption
- Force Calculation
- Torque Calculation
- Battery Selection
- Battery Capacity Calculation
- Motor Power and Torque Calculation
- Motor Selection

After Sales

- Best Maintenance Practices
- Owning Cost and Operational Cost
- Consumer Concerns
- Case Study



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"Just a quick note to let you know how pleased and impressed we are with the two day training programme handled at our premises. We were very new to the Electric Vehicle aspect and terminology used for as a non - technical personnel. Though the topic of Electric vehicle is a bit typical and dry, the way the trainer has kept us in pace with interactive session and made the thing clear and clarified the doubts we raised was very much helpful "

- Rajesh Mutharaju, Head HR - Hyundai Motors

"At Bosch Bangalore & Coimbatore, the DIYguru training programme has helped a lot in improvising the concepts of Electric Vehicle Design & Engineering for our experienced and fresh employees. The trainers are of high quality and knowledgable in terms of delivering the contents and making things understandable. We look forward to have a continuous relationship."

- R Shashi Kumar, Head HR - Robert Bosch Engineering

"Partnering with DIYguru we can see the budding entrepreneurs working closely on EV projects. I can see the interaction and enthuse which is there with all the young boys and girls who are part of this project. They are doing exceptionally well and I congratulate entire DIYguru team to further get more the guys and be a part of the electric revolution."

- Praveen Shrivastava, Zypp Mobycy

"DIYguru is giving a platform to new entrepreneurs in building up skills so that they get ready for the current market requirement. They are bridging the gap between the actual industrial requirement and conventional education system which are available with the schools and colleges."

- Sumit Agrawal,, Engineer & Entrepreneurs

"Doing this course helped me to understand the fundamentals of an electric vehicle, from Batteries to power train BMS to controller the basic know -hows are clear to me. This course helped me to change my attitude from mobility as a product to mobility as a service. As a student, I have got to understand the job and business opportunity which are waiting at our doorsteps within E mobility sector."

- Atharva Pitale, Yashwantrao Chavan College of Engineering

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